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MF APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	MF ATTORNEY DOCKET NO.
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09/099,742 06/18/98 CHANG

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DALLAS TX 75201-2980

WM01/0913

EXAMINER

MEHRA, I

ART UNIT

PAPER NUMBER

2663

DATE MAILED:

09/13/01 2

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/099,742

Applicant(s)

CHANG ET AL.

Examiner

Mehra Inder

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 1998.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9-14,16-19,21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 3,8,15,20 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - a. Refer to page 22, lines 21 and 22. Substitute 'decode queues 65' with 'decode queues 64'; and substitute 'decode units 64' with 'decode units 66'.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-6, 13, 14 and 16-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Franaszek et al** (US Patent No.5,729,228), hereinafter **Franaszek** in view of **Bigham** (US Patent No. 5,544,161).

Regarding claims 1 and 13, Franaszek discloses, in reference to figs. 1, 2 and 3, a method for parallel compression and decompression, refer to col. 2, lines 35-47. Franaszek discloses, in reference to fig. 2, col. 2 line 51, the bitstream separated into blocks (b1 221, b2 222, b3 223 and b4 224, called components); uses compression algorithm (col 1, lines 36-39) and encodes the blocks using compression algorithm (refer to col. 3, lines 25-27 and 62-64). Franaszek discloses, in fig. 3, the compressed block is divided into sections by the splitter 330 (separating packets from the packetized bitstream) and illustrating how a previously compressed

block 260 is decompressed using parallel decompression, refer to col. 3, lines 16-17 and further, illustrates in fig. 7 parallel decompression and decodes the packets, refer to col. 5, lines 33-45. Franaszek, further, discloses updating the corresponding portions (constructing the plurality of components from the recovered encoded data), refer to col. 5, lines 55-57; and consolidates the components via output data combiner⁸⁴¹ in fig. 8 (combining the plurality of components to recover the bitstream).

Franaszek does not disclose expressly a packet comprises header information and encoded data; and combining the packets into a packetized encoded bitstream.

Bigham discloses digital encoder MPEG-2 ¹¹⁸, fig. 2, and transport stream packet (bitstream packet) which consists of header section and payload section and are identified by program identification number (packet comprises header information and encoded data), refer to col. 10, lines 59-64 and col. 11, lines 32-40. Further, Bigham discloses combined ATM bitstream before transport to ATM edge multiplexer¹²⁰ or SONET MUX¹²², refer to fig. 2 and refer to col. 11, lines 50-53.

A person of ordinary skill in the art would have been motivated to employ Bigham's video distribution network into Franaszek's parallel Compression and Decompression in order to have packets used for parallel compression and decompression. The suggestion/ motivation to do so would have been logical to have ATM packets which provide greater flexibility in enabling MPEG-2 encoding.

Regarding claims 2, 4, 14 and 16, Franaszek does not disclose bitstream digitized

graphics or video frame; and the digitized graphics and video frames for display.

Bigham discloses graphics and video information in digital signals, refer to col. 4, lines 35-40, and col. 23 line 15; and digitized graphics and video for display, (refer to col. 31, lines 4-14.

A person of ordinary skill in the art would have been motivated to employ Bigham's video distribution network into Franaszek's parallel Compression and Decompression in order to provide video and graphics in digital stream to facilitate parallel compression and Decompression. The suggestion/ motivation to do so would have been logical to have ATM packets which provide greater flexibility in enabling MPEG-2 encoding .

Regarding claims 5, 6, 17 and 18, Franaszek discloses encoding the components using Lempel Ziv compression (Lossless compression algorithm), refer to col. 1, lines 35-38.

4. Claims 7, 9-12, 19, 21, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Franaszek et al** (US Patent No.5,729,228), hereinafter Franaszek in view of **Bigham** (US Patent No. 5,544,161) and **Schwartz et al** (US Patent No. 5,717,394), hereinafter Schwartz.

Regarding claims 7, 10, 19 and 23, , Franaszek does not disclose expressly constructing packets from the encoded components include both variable length and fixed length packets.

Schwartz discloses both variable length codewords (16 packets,fig. 4), refer to col. 28, lines 51-54, and fixed length packets , refer to col. 28, lines 56-57.

A person of ordinary skill in the art would have been motivated to employ Schwartz's apparatus for encoding and decoding data into Franaszek's parallel Compression and Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation to do so would have been logical to remove bit level manipulation of the data stream and thus increase the speed of processing by parallelization method.

Regarding claims 9 and 21, Franaszek does not disclose expressly distribution of packets to separate decode units in order.

Schwartz discloses, in reference to fig. 2A, where in buffer 204 supplies coded data to decoder units 205 in a predetermined order. Decoder unit includes multiple decoders.

A person of ordinary skill in the art would have been motivated to employ Schwartz's apparatus for encoding and decoding data into Franaszek's parallel Compression and Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation to do so would have been logical to remove bit level manipulation of the data stream and thus increase the speed of processing by parallelization method.

Regarding claims 11, 12, 24 and 25, Franaszek does not disclose expressly header information including tag; and distribution of packets to separate decode units on the basis of tag.

Schwartz discloses, in reference to fig. 3, a preface header containing pointers (tag) to the beginning of bit location of each bit stream, refer to col. 8, lines 21-22; and retrieval of packets from the proper location via proper pointer (tag), refer to col. 8, lines 29-31.

A person of ordinary skill in the art would have been motivated to employ Schwartz's apparatus for encoding and decoding data into Franaszek's parallel Compression and Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation to do so would have been logical to remove bit level manipulation of the data stream and thus increase the speed of processing by parallelization method while maintaining efficiency of compression and decompression..

Regarding claim 26, Franaszek does not disclose expressly queue to receive packetized encoded data in bitstream .

Schwartz discloses the use of queue to allow ordered data stream, refer to col. 19 lines 59-64.

A person of ordinary skill in the art would have been motivated to employ Schwartz's apparatus for encoding and decoding data into Franaszek's parallel Compression and Decompression in order to provide parallel encoding and decoding. The suggestion/ motivation to do so would have been logical to remove bit level manipulation of the data stream and thus increase the speed of processing by parallelization method while maintaining efficiency of compression and decompression..

Allowable Subject Matter

5. Claims 3, 8, 15, 20 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Rostoker et al (US Patent No. 5,872,784) discloses high speed single chip digital video network apparatus.
- Benbassat et al (US Patent No. 5,963,596) discloses audio decoder circuit and method of operation.
- Allen (US Patent No. 5,909,638) discloses high speed video distribution and manufacturing system.

7. Any enquiry concerning this communication should be directed to Inder Mehra whose telephone number is (703)305-1985. The examiner can be normally reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Chau Nguyen, can be reached on (703)308-5340. Any enquiry of a general nature of relating to the

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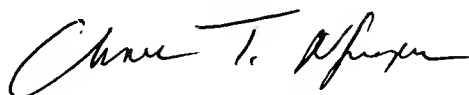
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status of this application or processing should be directed to the Group receptionist whose telephone number is (703)305-4700.

Inder Mehra 9/6/01
Inder Mehra

September 6, 2001



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600